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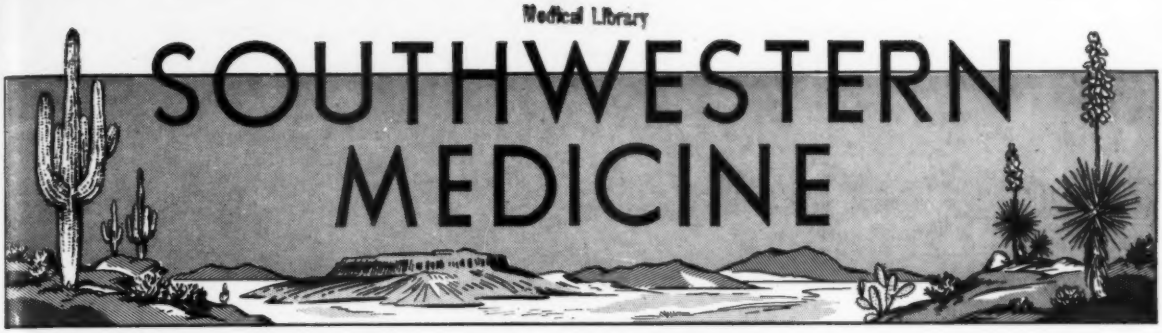

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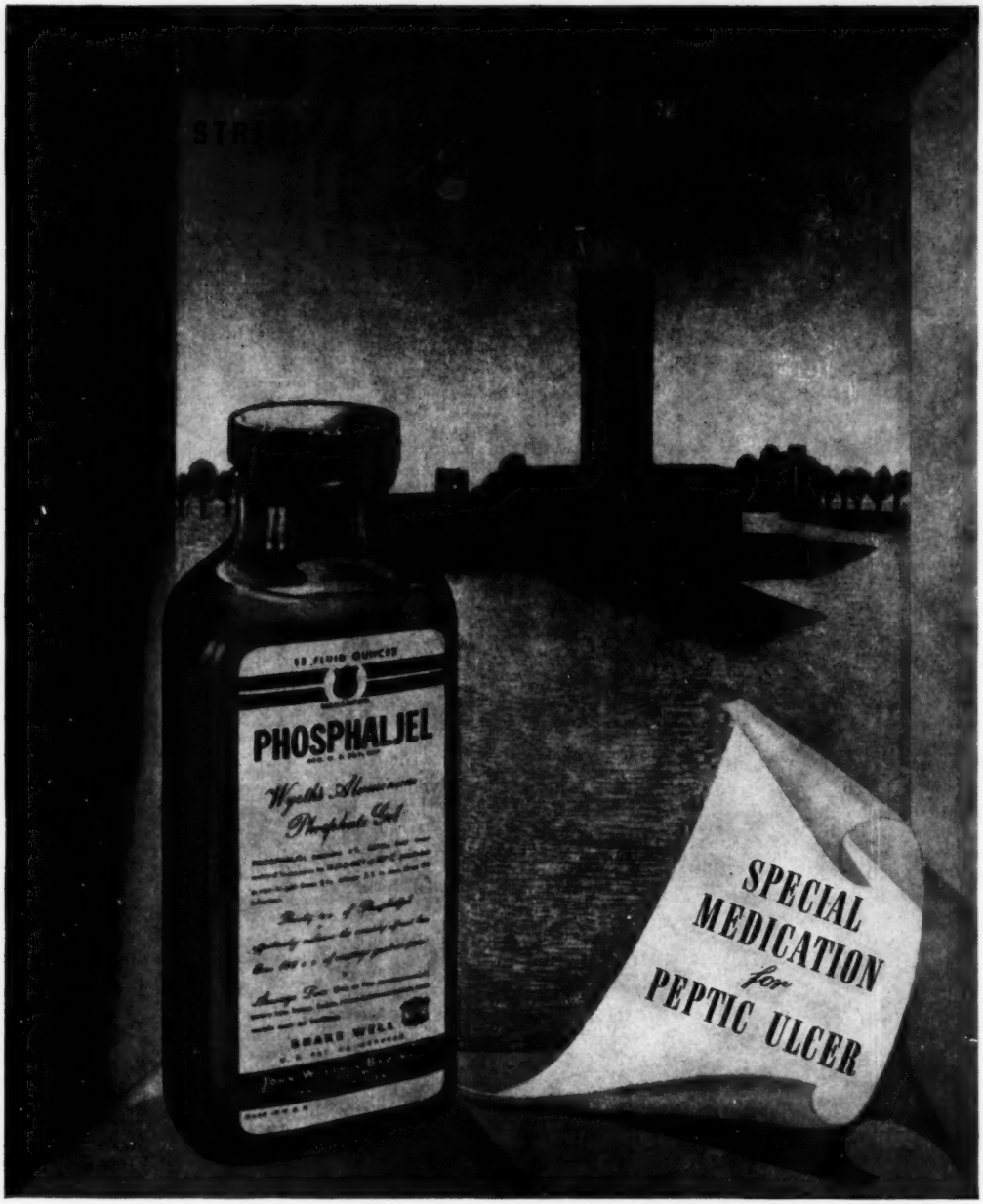

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DR. R. B. HOMAN, SR.

Again it is our sad duty to record the passing of another of our physician friends. Recently Dr. R. B. Homan, Sr., died at his home in El Paso, after service in the practice of medicine for nearly fifty years.

Dr. Homan was a native Texan, the oldest of a family of twelve children. His academic education was received at Texas Christian University. The degree Doctor of Medicine was conferred upon him by the University of Texas in 1897.

His early years were devoted to the general practice of medicine in West Texas. During this time he became ill and went to Asheville, North Carolina, where he underwent treatment for tuberculosis. In 1907, Dr. Homan came to El Paso and entered the specialty practice of diseases of the chest. In 1910, he began the operation of a sanitarium now known as Saint Joseph's. In 1925, Dr. Homan, together with a partner, the late Dr. John C. Crimen, built a sanitarium devoted to the treatment of tuberculosis. Dr. Homan gained a national reputation for his skill in the care of the tuberculous. His sanitarium attracted patients from many parts of this country. In later years the institution was converted into a general hospital now known as Southwestern General Hospital. Through the active direction and interests of Dr. Homan, this quickly became one of the best equipped hospitals in the Southwest.

Dr. Homan was active in the affairs of organized medicine. He held various offices in the El Paso County Medical Society, the Texas Tuberculosis Association, and the Southwestern Medical Association. He was a member of the Texas State Medical Association, the American Medical Association, and the American College of Physicians. Unofficially, Dr. Homan lent advice and help to the officers and staffs of various medical societies and hospitals throughout the Southwestern area over a period of many years.

Despite a busy and active practice up to the last months of his life, Dr. Homan found time to engage in numerous civic activities. He was a member of the Rotary Club, the El Paso Draft Appeals Board, and for some years acted as chairman of the board of the First Christian Church. Dr. Homan could always be counted on to participate in any movement calculated to better the lot of his fellow citizens, rich or poor.

Dr. Homan was a happy, understanding sort of man. He had a heart as big as all outdoors. He was never too busy to offer comfort and help to those in need. He had strong convictions as to what was right and what was wrong. Many young physicians of El Paso can testify to and be thankful for the strength to do the right thing that was fostered in them by this friend of theirs. Dr. Homan was one of the finest examples of that type of physician which has been responsible down through the years for the high place which American medicine holds in the opinion of our people. Patients, friends, and the young initiates of the guild of medicine will sorely miss this man.

God rest this physician who has now found peace.

MALARIA IN RETURNING TROOPS

Public Health officials and physicians in general have for some time been aware of a potential danger to the civilian population of this country in the great numbers of troops returning from areas where malaria is endemic. Many

have acquired clinical malaria in these areas and have been returned to duty in the United States following a course of treatment. It is well known that relapses may occur. To say it differently, all cases of malaria are not immediately cured by a course of quinine, atabrine, plasmochin, totaquine, bismuth or the arsenical drugs. Therefore, an undetermined number of troops are returning to the continent harboring the malarial parasite in their bloodstreams. Vast research is under way at present in an effort to discover more potent anti-malaria drugs than we now possess. Many infected troops are sent to portions of this country where the insect vector (anopheles mosquito) exists. Should this mosquito partake of a blood meal from a malaria infected person, then and at that point, the mosquito population of that area is infected with malaria. That means that in turn the local civilian population may become exposed. As thousands more troops are returned to this country from endemic malarious areas the public health problem involved may assume the proportions of a serious threat. In a recent valuable paper[1], Geiman makes the following pertinent observations:

"Are troops returning to this country from endemic malarious areas a serious threat to the public health? Even now, frequent references are being made to relapses of malaria in men who have returned from the fighting fronts in the Southwest Pacific and Africa.

"An analysis of the serious potentialities reveals that the following factors will play a role in the spread of tropical diseases, including malaria, from returning troops: the time of year when troops return; the presence in the area of necessary vectors for transmission of disease; the type of sanitation in rural or urban communities to which men return; and the occupation taken up by the returned soldier or sailor. The first three factors are the most important ones. If a person harboring malarial parasites in his blood returns during the breeding season of transmitting anopheline mosquitos, transmission can take place. However, if no anophelines are breeding or can gain access to the infected person, no transmission can occur. With regard to the presence of transmitting vectors during the summer, anophelines that can transmit malaria occur in many of our northern states, including Massachusetts, the only reason for the disappearance of malaria being the absence of human infection. Small epidemics have occurred in scattered northern states in recent years, and future outbreaks may be expected. The explanation of the third factor—sanitation—is obvious Communities containing numerous breeding places for anophelines, with inadequate screening of houses, a low economic status and poor medical care and supervision are likely areas for the transmission of malaria. Such areas provide the greatest chance for tropical and virulent strains of malaria to gain a foothold.

"The experience in England during and after World War I indicates that malignant tertain malaria dies out after approximately one year at that latitude, leaving only endemic benign malaria. In Macedonia, malignant tertain malaria was the most prevalent type among the troops. When these troops returned to England more relapses developed,—approximately 14,000 in 1919—the anophelines apparently failed to transmit the infection, because the temperature and humidity requirements for the completion of the developmental cycle did not obtain. Reasons for this failure are well known to malariologists, for malignant tertain malaria is seldom found in regions having an average summer temperature lower than 21°C. (70°F.) and an average winter temperature lower than 9°C. (48°F.). If the infection is brought into such areas, small epidemics may occur, but eventually the disease dies out. Consequently, the major problem with returning troops is to recognize and make an accurate and speedy diagnosis of malaria in all infected persons. Since it is desired to prevent the transmission of new malarial strains in this country, and since there is no need for these men to acquire immunity, a radical cure should be the aim of every practitioner treating such infections."

1 Geiman, Quentin M. Advances in Malaria Research. N. E. J. of Med., 229:324, (Aug. 19), 1943.

UNTO THE HILLS

Down through the centuries the man of medicine has built a way of life which is embodied in that group of precepts known as professional ethics. Many doctors were attracted to the study of medicine in the first place because they perceived the high standing enjoyed by their family physician. Perhaps without placing it in words they realized as young men that there was nothing higher in this world than devoting oneself to a life of service to one's fellows. In the physician's very attitude of selflessness, he has thereby found himself. And that is the highest reward attained by any man.

Sometimes, in the hurly-burly of the scramble for a living, some doctors have strayed, in various ways, from the narrow path that leads upward. Now and then it is good to learn what

others think of us. Such opinions from outside our rather narrow guild tend to stimulate one to once more look unto the hills from whence cometh our strength.

Recently the Illinois Medical Journal had this to say:

"One of the best tributes to the medical profession which has come to our attention appeared as an editorial in the Grant County Herald, Lancaster, Wisconsin, under date of January 13, 1943. The editor, Mr. A. L. Sherman, in his 'Remarks to a Young Friend Soon to Graduate in Medicine' presented first, a paragraph from the dedication to 'Underwoods' by Robert Louis Stevenson:

" 'There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as rule. He is the flower (such as it is) of our civilization.'

"Then follow the complimentary statements to his young friend which we present in full:

" 'You are, my young friend, on the brink of your career. Whether or not your career will be great or ordinary depends very much on yourself. You will, I understand, finish medical school this year. After that Uncle Sam will want you for awhile. This will be fine experience. Afterward and in the course of time, you will come back to private life, 'put up your shingle,' and begin to practice somewhere—maybe in the old home town, which you like so much and where you know everybody and are liked just for yourself. This will be a help in some ways and in other ways a handicap—people will find it hard to realize that the little boy they saw at play so short a time ago, is now a grown man and a full-fledged physician. Nevertheless, they will have an affection for you because they knew you when you were young. People are like that.

" 'But wherever you go to practice you will be among human beings and will have a great opportunity for service. I hope you will be paid and well paid for what you do and I know you will try at all times to earn your money. Nevertheless, the rewards you receive — the great rewards—will not be monetary, but spiritual. The monument you will have in that far distant day when you leave this world will not be stone—it will be something in the memory of the many you served—the men and women, the families, the boys and girls—the people of your clientele. They will remember you for what you did for them and will be grateful to you.

" 'The reason, of course, is because of the peculiar and extraordinary relation which exists between the physician and his patient. You will see people as others rarely see them—when they are ill and despairing and need help desperately. You will not only be a healer of bodies—you will be a healer of souls. You will find the psychic side of your ministration of importance equal to the physical ofttimes more so.

" 'In ministering to human beings you will find them with the bars down and without glamour—there will be none of the little ordinary masks and pretenses we all wear to meet the world. Yet even though the fellowman you serve may be helpless, even undignified, you will find something noble and lovable about him, something that transcends and is beyond any definition of the physical, something above the anatomical and that defies material analysis. He is a human being.

" 'If you did not feel this you would be no true physician and would be wasting your time as a doctor. Nor would you be much good to the world.

" 'I remember, many years ago, hearing a young medico tell me he was 'out for the money.' The money was there to be made and he was going to 'get his.' 'I would cut a man's head off for five dollars, if he paid me for it,' this young scoundrel was fond of declaiming. His crass attitude horrified me and I read with pleasure a few years later that he had been prosecuted and punished as a particularly venal sort of quack. If ever a man's rotten and cynical philosophy caught up with him, this was a striking example.

" 'In conclusion let me say that I have kicked around this world for over half a century. I have always studied people, remembering the advice of the sage that 'the proper study of mankind is man.' I can say with Stevenson, that no calling in the world has a higher opportunity for human service than the true physician. This is not to say that all the doctors one meets are true and great, or that many of them are anything else but mediocre. But

when you meet a good one—a great humanist as well as a great physician — how his light does shine!

" 'In far flight and at long last, I see you—in mind's eye. You will be wearing spectacles, because your once keen sight will be dim. Your shoulders will be rounded and your step slow, due to the advance of the years. Your hands will be gnarled—instead of white and supple as they are now. And maybe your breath will be a bit wheezy. We will say nothing of wrinkles, of which you will doubtless have plenty. All these, and the wear inside, will be accolades of honor. You will have spent yourself in human service—which I can assure you is the greatest way possible to spend a life. And you will be tranquil, happy—not caring much what happens to yourself—you will have done so much for others.

" 'So you're going to be a doctor?

" 'Well, go in and win, my boy—and may God bless and keep you!' "

ASTHMATIC DEATHS

The pathological processes involved in death from asthma and certain other respiratory diseases have not been too clearly understood. There has been stated, as the basis of many of these deaths, the observed facts of bronchiolar constriction and the phenomenon of the patient "drowning in his own secretions." Hilding[1], in a recent paper from the Department of Pathology, University of Minnesota, has attacked the problem from a somewhat different standpoint than that usually adopted by most investigators. In a rather exhaustive study he concludes that the failure or insufficiency of the cilia in the bronchial tree probably has more to do with the final production of death in certain respiratory conditions. It would appear that Hilding has entered into a most promising avenue of research. Among other things he says this:

"There is a group of cases among patients who die from asthma which shows a very striking and characteristic change in the bronchial epithelium. This change has been noted briefly in the literature a number of times and has been rather fully described, but it does not seem to be understood nor its importance appreciated. It is entirely ignored in the great majority of descriptions of the pathology of asthma. The change consists in the substitution of goblet or goblet-like cells for the normal columnar ciliated cells. Apparently it is a true metamorphosis. As the metamorphosis takes place, the ciliary mechanism is lost, and the characteristic viscid, mucinous secretion accumulates in the air passages. Normally, this viscid type of secretion is very readily carried up vertical surfaces by ciliary action. The amount of secretion is enhanced, because the erstwhile ciliated cells are secreting as well as the glands. The difficulty of removal of the secretion is aggravated, because the mucin remains attached over large areas within the cells which produce it, thus anchoring the mass to the wall. When the air passages have become sufficiently filled, the patient dies of asphyxia. In my opinion, this metamorphosis is the chief pathologic change and in my opinion death results directly from the loss of ciliary function.

"There is a second group of asthmatics in which the cilia are also lost, but the picture is essentially different. In this group, chronic bronchitis with purulent secretion is prominent. There is destruction at the surface of the bronchial epithelium, and the ciliated cells have sloughed off very extensively. In these patients, also, the air passages filled up with secretion to such an extent that the patients died. Presumably the stasis and accumulation occurs largely because of loss of ciliary action.

"Bronchospasm must not be forgotten. It was doubtless a factor in some of these cases. In one of the groups which was omitted from this discussion, spasm seemed to play a dominant role.

"In the single case of tracheobronchitis which was found the patient also died in extreme respiratory distress. In this patient, the ciliated epithelium was practically entirely destroyed, and, according to the necropsy notes, all the bronchi contained viscid plugs of secretion. Presumably, this secretion could have been removed by ciliary action had the mechanism not been destroyed. In the pandemic of influenza in 1918, many patients died in acute respiratory distress with the air passages and lungs filled with a thin, frothy, liquid secretion. The pathologic material from the lungs of 12 of these patients was reviewed. The material was not entirely satisfactory, but, as far as could be determined, the bronchiolar epithe-

lium had been entirely destroyed, carrying all cilia with it. This type of secretion is not removed as rapidly by ciliary action . . . at least against gravity . . . as are the more viscid types, but undoubtedly the loss of ciliary action was at least a factor in the accumulation of quantities of secretion in the air passages. How important this factor was, must remain a matter of conjecture awaiting further study.

"In all these groups, the two types of asthma, the tracheobronchitis and the influenza, I believe that mechanical removal of secretion as a substitute for ciliary action is indicated. Aspiration, either through a bronchoscope or tracheotomy, would be the method. It has been used more or less successfully in asthma for years and more recently has saved the lives of patients ill with acute laryngotracheobronchitis and postoperative atelectasis."

1. Hilding, A. C. The Relation of Ciliary Insufficiency to Death From Asthma and Other Respiratory Diseases. Trans. Am. Acad. Oph. & Oto.: P. 379 (May-June), 1943.

An Outline of the Medical and Surgical Aspects of the Commonly Used Sulfonamides

ARCHIE P. KIMBALL, M. D.
Yuma, Arizona

WHEN Foerster and Domagk[1] reported their epochal discovery of the effectiveness of sulfonamides in protecting mice against fatal infection with hemolytic streptococci, they set in motion an irresistible force that has since rendered obsolescent much of the technology of medicine. Ironically, the first data on the manufacture of P-aminophenyl-sulfonamides is given in a paper by Gelmo[2] which was published in 1908, but its medicinal possibilities were not realized until Foerster and Domagk accidentally discovered them in 1933. Thus for over a quarter of a century, one of the most potent weapons of modern medicine has lain dormant.

Publication upon sulfonamide research appeared with increasing frequency from 1933 until the outbreak of war in Europe, when there was necessarily a momentary slackening of such investigations. However, during the last seventeen years over 5000 organic compounds with therapeutic possibilities have been synthesized[3]. From this mass of laboratory and chemical research have emerged the sulfonamides which are commonly used today.

The present war will bring forth a flood of clinical results, and it will be interesting indeed, to review the published results in such a way as to bridge the gap between the early experimentation and eventual judgment of the sulfonamides. With the enormous use of these compounds by the military, as well as the civilian medical profession we should be able, after the final reports are tabulated, to evaluate their uses much better than before the conflict began.

Naturally it is impossible for me to completely discuss the "sulfonamide picture" in a paper for this meeting, therefore I shall confine myself as much as possible to the practical aspects of sulfonamide therapy.

MODE OF ACTION

The sulfonamides have a bacteriostatic and a limited bactericidal action[4]. The magnitude of this effect is dependent principally upon (a) the concentration of the drug and (b) the concentration of "peptone" in the environment. "Peptone" as used here connotes any product of protein digestion. Current investigation indicates that para-amino-benzoic acid is the product of protein digestion which these drugs replace in the "diet" of the micro-organisms[5, 6]. Therefore, it is believed that sulfonamides act by interfering with the nutritional requirements of the bacteria. It is on this basis that the most serious deficiencies of sulfonamides are explained. That is, their failure to function in the presence of pus. Wherever protein is being broken down (pus, blood, etc.) so much para-amino-benzoic acid is liberated that few bacteria are "fooled" by the sulfonamide derivative (para-amino-benzine-sulfonamide). This factor has frequently been demonstrated (although not explained), by the comparison of the chemical effects of the drugs in infections with little tissue damage, with those in which mark-

Read before Arizona State Medical Association: Tucson, April 30-May 1, 1943.

ed tissue damage occurs, and it explains the relatively poor response to sulfonamides by certain organisms, especially staphylococci[7]. The research laboratories are attempting to find some way to remove the para-amino-benzoic acid from the infected environment and thus enhance the action of sulfonamides. At present, we have no evidence that sulfonamides interfere with the formation of antibodies, nor that they stimulate the production of immune substances.

PRECAUTIONS

Intelligent clinical use of sulfonamides requires precise bacteriologic data, and the observation of several simple rules of caution as follows: (1) Since the kidneys serve as the major excretory channel for these drugs, one must keep close check on the urinary output, especially in prescribing sulfonamides for individuals with impaired renal function. This requires frequent urine examinations for the detection of hematuria, casts, and urolithiasis[8, 9]. (2) Severe and continued vomiting following the use of sulfanilamide, or sulfadiazine is an indication of toxicity and necessitates careful observation if the drug is to be continued. (3) Patients taking sulfonamides should be inspected daily for: (a) Skin rash (allergy; (b) Previously non-existent sore throat (agranulocytosis); (c) Jaundice (hepatitis; (d) Severe central nervous or peripheral nerve signs (neurotoxicity); (e) Weakness and pallor, or skin pigmentation (hemolytic anemia). (4) Ultra-violet therapy or prolonged exposure to sunlight should be avoided to prevent photosensitivity.

Precise bacteriological information is often essential, for determining the choice of sulfonamide. However, chemotherapy may be started before the bacteriologic report is returned. In this connection, I wish to state that the wisest plan in treating pneumonias is to always have the sputum typed before starting the drug. This is necessary because occasionally one finds a severe pneumonia which will not respond to sulfonamide therapy, and it is impossible to type the organism after sulfonamides have been given. These cases will usually respond to type specific serum, so that you may still save your patient provided you know the type of the microorganism. A practical way to meet this requirement, and still not burden the patient with unnecessary laboraory fees is as follows: Collect the sputum in a sterile petri dish on the day of admission. Seal the dish with scotch tape and place it in an ice box. Then start the sulfonamide. If there is no response to the drug within 48 hours have this previously taken sputum typed. If there is adequate response to the drug the sputum may be discarded.

CHOICE OF DRUG

In making a choice of a sulfonamide drug, four factors, plus clinical experience, determine the choice in a given clinical condition. These are: (1) Specificity for the microorganism causing the disease. Each of the sulfonamides have different degrees of specificity for different organisms. (2) Toxicity to the human organism. All of the sulfonamides may produce toxic reactions. (3) Rapidity of absorption and excretion. The effective dosage is directly related to these factors. (4) The amount of acetylization. All of the sulfonamides undergo chemical changes in the body to the acetyl forms, which have no bacteriostatic or therapeutic action. Hence larger and more frequent doses must be given of the sulfonamides that are readily acetylated.

More specifically, since there are different degrees of specificity for different microorganisms, it behooves us to be familiar with the first and second drug of choice in each condition. Therefore, I shall briefly discuss the preferred compound in the common medical and surgical conditions.

It has been found by experience and by bacteriologic study[10, 11, 12] that sulfadiazine is the drug of choice, with sulfanilamide second choice in the following infections due to Beta Hemolytic Streptococci: Bacteremia, Scarlet fever, Erysipelas, Puerperal sepsis, Peritonitis, Tonsilitis, Adenitis, Otitis Media, Mastoiditis, Meningitis, Pneumonia, Empyema, Cellulitis, Urinary infections, Arthritis, and Osteomyelitis. Furthermore, these two drugs in the order named are best in Meningococcic bacteremia, and in Strep. Viridans and pyocyaneous infections of the urinary tract.

In infections due to alpha hemolytic streptococci (strep. viridans) sulfanilamide is the drug of choice for both bacteremia and meningitis, with sulfathiazole second for bacteremia and sulfapyridine for meningitis. At this point let me emphasize that sulfathiazole should never

be used in infections of the central nervous system because it is poorly diffused into the spinal fluid, and therefore it never reaches a bacteriostatic concentration in the spinal fluid.

In meningococcic infections sulfadiazine is the drug of choice in both bacteremia and meningitis, with sulfanilamide second choice in bacteremia and sulfapyridine second choice in meningitis.

In Gonococcal infections sulfathiazole is the drug of choice in male and female gonorrhea with the exception of vulvo-vaginitis, in ophthalmia neonatorum, and arthritis. Sulfapyridine is the second choice. Vulvovaginitis is best treated with sulfapyridine and second choice is sulfanilamide.

In Pneumonococcal bacteremia, pneumonia and meningitis sulfadiazine is the first choice and sulfathiazole is second choice except in meningitis where sulfapyridine is the choice. In Pneumonococcal peritonitis, otitis media, and mastoiditis sulfapyridine is the first choice with sulfanilamide second choice in peritonitis, and sulfathiazole second choice in the other two.

In all Staphylococcic infection sulfathiazole is the drug of choice except in meningitis where sulfadiazine is first. Sulfadiazine is second choice in the staphylococcic infection.

The same specificity for microorganisms as just listed holds true in urinary tract infections, however, the colon group and strep. faecalis are best treated with sulfathiazole with sulfadiazine second choice.

Sulfanilamide is the drug of choice in Trachoma, Lympopathia venereum, chancroid, Clostridium Welchii, Impetigo, and Actinomycosis. The second choice for these is sulfapyridine, except for lympopathia venereum and Clostridium Welchii, where sulfathiazole is second. The Influenza bacillus infections are best treated with sulfapyridine and sulfanilamide second choice. Friedlander bacillus is best treated with sulfadiazine and sulfapyridine second choice.

From the foregoing one can see readily the difficulty that a busy practitioner experiences in striving to intelligently apply the correct drug to these various conditions. If one remembers the following generalizations and also keeps a chart handy for reference when unusual bacterial infections occur, he can at least "keep on the beam." Generally speaking, sulfadiazine or sulfanilamide is the drug of choice in streptococcal and meningococcal infections. Sulfathiazole is the drug of choice in Gonococcic and Staphylococcic infections. Sulfadiazine or sulfathiazole is the drug of choice in pneumococcic infections with occasional exceptions in which sulfapyridine is the choice. I have been rather dogmatic in presenting the drug of choice, but this was necessary for simplification. I am sure that you all realize that this entire question is in a state of flux, and that the concensus of opinion is rapidly changing.

I have not mentioned Sulfaguanidine or succinylsulfathiazole simply because their use can be considered to be local rather than systemic. These drugs, though more soluble than other sulfonamides, are not readily absorbed from the intestinal tract, and therefore have a great inhibiting effect upon the microorganisms that normally or abnormally inhabit the intestinal tract. At present these drugs are being successfully used in the treatment of acute bacillary dysentery, and as prophylactic agents in abdominal surgery[13, 14].

LOCAL USES

Numerous reports have been published, and numerous controversies have arisen over the direct application of sulfonamides to potentially infected or infected surgical wounds, compound fractures, burns, war wounds, ocular infections, industrial wounds, gynecologic infections, ulcers, and diseases of the skin. It seems probable that the therapeutic effectiveness of the topical use of these compounds has not been completely realized since new uses are appearing constantly in the literature. In this connection I wish to mention a recent contribution which may go far in improving this form of therapy. Chambers and his associates[15] have devised a method to yield a stable suspension of fine crystals which is a neutral aqueous preparation of sulfonamides of much higher concentration than any available. It remains stable in water for months. These physical properties have extended the range of usefulness of the sulfonamides in local application. This new form has been named "microcrystalline" by Chambers, and a number of the commonly used sulfonamides have been prepared in this new form. Harris[16] reported the use of microcrystalline sulfathiazole in a 20% solution for

impetigo contagiosa. The solution was placed on small gauze dressings and applied to the washed, and decrusted areas of impetigo. Upon removal of the dressing 24 hours later, the results in all cases was the same, complete healing. This suspension may be the answer to much better results in the infections associated with extensive tissue damage.

The use of sulfonamides in wounds is now commonplace, however, the question of which drug is superior is far from settled. The advocates of sulfanilamide[17, 18] state that it has the advantage of economy, high local concentration and greater penetrating and diffusing powers. However, they admit it has the disadvantage of rapid disappearance from the wound and lower bacteriostatic activity against many of the organisms which may be present. The advocates of sulfathiazole[19, 20, 21, 22] state that its bacteriostatic activity is much higher, that it persists in the wound for a longer period, and that it is preferred because the most common wound contaminants are staphylococci and anaerobic bacilli. However, they admit that if improperly used that it may persist in a wound for so long a time that it acts as a foreign body, that it is not as effective in the presence of streptococci, and that it is more expensive. Sulfadiazine closely compares with sulfathiazole. Of these drugs sulfanilamide probably is used most widely, but it might be advantageous to reinforce it by mixing it with 10 to 50% sulfathiazole. Its popularity rests on the fact that little difficulty has been experienced following its use. Some of the difficulties with sulfathiazole may easily be due to the rather large amounts of material used and to the fact that it has not been dispersed evenly over infected surfaces. If finely powdered or crystaline sulfathiazole is dispersed as a thin coating rather than being "packed" in these wounds, much of the irritation and foreign body type of reaction can be avoided. If these mechanical problems involved in its application can be overcome it is obviously superior.

The "antisulfonamide" action of pus and tissue exudate may be partially overcome by frequent cleansing of infected surfaces, followed by reapplication of the powdered drug. This is essential in the early stages of infection. At this point let me emphasize that several reports of sensitization after local application of sulfathiazole have appeared in the literature[23, 24, 25], and this usually becomes manifest when oral therapy is instituted following a course of local therapy. Fortunately the reactions are mild generalized eruptions which usually disappear when the drug is stopped.

There is one field in which these compounds have without question established themselves permanently in prophylaxis and treatment; namely in intraperitoneal infection or suppuration. Practically all of the objections which have been raised against the intraperitoneal use of sulfanilamide or sulfathiazole can be refuted on the basis of clinical and experimental facts. In selection of a drug for intraperitoneal prophylaxis the following well defined criteria should be applied: (1) The drug should be active against a variety of micro-organisms; (2) it should, if possible, stimulate the local peritoneal defense mechanism and, at the same time, be innocuous to the peritoneum; (3) it should remain in fairly high concentration in the peritoneal space as long as possible, thus exerting prolonged bacteriostatic action. Sulfapyridine, and to a lesser degree sulfadiazine are definite peritoneal irritants and should not be employed for this type of therapy. Sulfanilamide meets some of the criteria postulated above. It is not a peritoneal irritant and does not depress the local peritoneal defense mechanisms. On the other hand, it remains in the peritoneal fluid for only twenty-four hours or even less. Sulfathiazole does not entirely leave the peritoneal fluid for a period as long as four or five days. Concentration in the peritoneal fluid of 400 or 500 milligrams per 100 cc. are present following the instillation of 5 to 10 grams. Cellular elements, particularly the mononuclear phagocytes, are markedly stimulated. There is no evidence of peritoneal irritation. Additional oral or parenteral therapy, under ordinary circumstances, will not alter the concentration to any significant degree but may increase the hazard of toxic reactions. In the case of sulfathiazole, further treatment is not necessary for at least three or four days.

Naturally it is impossible to discuss all of the local uses, however, let me briefly mention the uses of sulfonamides in compound fractures and osteomyelitis. The universal consensus of surgical opinion at present is that the combination of debridement sulfonamides locally and by

mouth, and closed plaster for immobilization is the preferred method for treatment of compound limb fractures. The indication for both local and peroral use of sulfonamides in compound fractures would appear to be absolute, unless the patient is seriously sensitive thereto, regardless of whether the Orr-Trueta method or another method is applied. The dramatic results reported by Cohen and Schulenburg[26] in compound fractures among personnel evacuated from Dunkirk under appalling conditions in which the patients received only sulfanilamide by mouth, stimulated adoption of the sulfonamide treatment in the combat zones. These cases included 85 wounds treated by the closed-plaster (Orr-Truetta) method, of which 54 were compound fractures. Healing was rapid and uneventful; there were no deaths; and only one limb had to be amputated. This is certainly a striking contrast to our results in World War I. Opinion as to the choice of a sulfonamide for local use in compound fractures is still in the formative stage. Sulfanilamide is still the recommended drug, although "properly used" sulfathiazole may replace it.

Osteomylitis deserves extended mention in any discussion of the local use of sulfonamides, but unfortunately adequate time has not elapsed to permit proper appraisal as yet. A few publications[27, 28, 29] indicate that sulfathiazole combined with antitoxin have reduced the mortality of acute osteomyelitis from 66% to 11%. Early reports on its use in chronic osteomyelitis in which it is packed into the cavity following saucerization have indicated that it considerably reduces the period of hospitalization as well as the incidence of metastatic abscess. However, final evaluation must wait for further reports.

DOSAGE

I have purposely evaded the question of dosage of these drugs, since in a paper as general as this it would only tend to confuse. However, in the oral administration of sulfonamides one naturally varies the dose with the severity of the condition. In general, to produce bacteriostatic conditions in the tissue fluids one must maintain the blood levels at he following levels: Sulfanilamide, 6 to 8 mgm. per 100 cc.; Sulfathiazole 3 to 6 mgm. per 100 cc.; and sulfadiazine, 8 to 12 mgm. per 100 cc. Generally speaking these levels can be maintained by giving an initial dose of 3 to 5 grams, and followed at regular four hour intervals with 1 gram. In children a good rule is 1 to 1½ grain per pound of body weight for each twenty-four hours, divided into four hour doses. Locally and intraperitoneally one should never use more than 10 grams, at any one time, and preferably as a rule not more than 5 grams.

PROPHYLACTIC USE

The prophylactic use of sulfonamides is rapidly becoming established[30, 31, 32]. These drugs have proven successful in prevention of rheumatic fever, meningococcic infection, in prevention of complications in whooping cough and measles, in prevention of urinary tract infections, in prevention of postpartum sepsis, in prevention of most operative infections, and in prevention of gonococcal urethritis. Here as elsewhere in the study of sulfanilamides, the outlook for the future is indeed promising.

In closing, let me remind you that the enthusiastic acceptance of sulfonamides throughout the world has brought in its train a host of varied indications for their use. The practical clinician is daily contributing his item to the general knowledge, and it is understandable that both in civilian life and in combat zones men harassed by anxiety will seize upon these wonderful new drugs and expect them to achieve the impossible. However, natural this conduct may be, surgeons should entertain valid doubts upon many miraculous results reported. Such experiments do serve the useful purpose of being the fountain of inspiration from which will flow during the war and thereafter a vast number of new and highly useful methods for the employment of sulfonamides. This healthy empiricism, coupled with the ceaseless activity of research laboratories, give great promise for the future in this field of chemotherapy.

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Practical Surgery of the Ovary

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SURGERY of the ovary heretofore has received considerable study here and abroad. On one hand, German schools of 30 or 40 years ago insisted that oophorectomy was indicated for such divers conditions as dysmenorrhea and obesity, and castration of women was rife in the land; on the other hand, extreme conservatism prevailed among those who taught that ovarian tissue was sacred and must never be touched unless tumors of considerable size were present. We are at present in a more sane and "middle road" and rational principles in surgery of the ovary are well established.

Let us first review a few anatomical points. As you remember from your embryology, ovarian tissue develops in the region under the kidney. From there the ovary descends from the Muellerian ducts into a body which later develops into the uterus, the Fallopian tubes and the ovaries as well as other parts not within the scope of this paper. This descent of the the ovarian tissue from the neighborhood of the kidney through the infundibulo-pelvic ligament I think deserves special consideration. The infundibulo-pelvic ligament runs along the posterior peritoneal covering of the abdominal wall down to and over the brim of the pelvis, and an inch or two within the pelvis joins the ovarian ligament which proceeds from the uterus and joins the ovary at the hilus. This long ligamentous structure contains the ovarian artery, the ovarian vein and nerve fibers. The ovarian artery anastomoses with the ovarian branch of the uterine artery and the two together send several loops into the mesentary of the tubes, into the broad ligament, and, of course, into the hilus of the ovary itself. The veins follow generally the same course. The ovarian nerve follows the arteries into the hilus of the ovary. There is an appreciable space between the uterine part of the ovarian artery and the Fallopian tube, or rather the uterine anastomoses of the ovarian artery follows the ovarian ligament closely in the space between the ovary and the uterus. The veins in all these structures are of large caliber and very tortuous. They sometimes become varicosed to a marked degree, causing constant bearing down sensation and boring pains, which increase in severity with the length of time that a woman is in the upright position.

Bearing these points in mind let us consider some of the surgical procedures which we may be called upon to perform in the course of our practice. I do not mean in this paper to discuss the gross tumors that we are all familiar with such as the multilocular cysts or the dermoids. I wish to emphasize in this paper some of the smaller tumors or cysts which are frequently deemed sufficient indication for oophorectomy. It would lead us too far afield in a discussion within the limits of our time to consider those well known and often discussed conditions. I wish to emphasize a few ideas gathered from some experience in the general hospital clinics and private practice, and from which I hope we may all draw some benefit. The primary consideration in salpingectomy is to preserve as much as possible the tissue upon

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which the ovary is situated and upon which it depends for its nourishment and survival. In salpingectomy where the ovary is in good condition and can be saved it is best to dissect the tube out as thinly as possible, preferably by stripping it out from under its peritoneal covering and keeping as far away as possible from the major blood supply to the ovary. The ovary has a much better chance of surviving if this method be followed than if the tube is simply clamped and trimmed off. Ovaries that have a good blood supply derived from two sources, as this method will insure, do not tend to become cystic and consequently will function for many years to come.

In cases of hysterectomy if the Fallopian tubes are not diseased it is much better to preserve the tubes than to excise them along with the uterus. If a tube is healthy it can do no harm to leave it, and the ovary in their proper situation. It is necessary, however, in peritonealizing the open surface of the broad ligament together with the ovarian ligament and the uterine end of the tube provide as much slack as can be obtained to keep the ovary as nearly as possible in its normal position. We can depend in supra-vaginal hysterectomy almost altogether for support of the cervical stump on the support of the round ligaments and the utero-sacral ligamens, reinforced with the closure of the cul-de-sac of Douglas under the insertion of the utero-sacral ligaments into the internal os of the uterus. Under no circumsances should the ovaries be engrafted upon the stump of the cervix. All too often constant pain and later cystic ovaries result from this practice. In case resection of the estire ovary is necessary, it is very important to isolate and tie the stump of the infundibulo-pelvic ligament and allow it to remain loose against the abdominal wall doing whatever peritonealizing may be necessary with abdominal peritoneum. This structure is extremely sensitive and I have seen patients with a post-operative lumbar backache of such severity that re-opening of the abdomen has been necessary to relieve the tension on this structure. On several occasions have I seen the infundibulo-pelvic ligament actually stitched into the cervix in total supravaginal hysterectomy, resulting in constant discomfort and a dragging feeling in the lumbar region. This structure can in no wise aid in supporting pelvic viscera and can cause much suffering and annoyance.

Let us now consider some phases of surgery of the ovary itself. The ovary, as you remember, is covered by cuboidal epithelium and has no peritoneal covering except at the hilus. Certain conditions may sometimes demand attention; for instance, the rare ovarian pregnancy, large persistent corpus luteum cysts causing long periods of amenorrhea, other cysts, in themselves not harmful, but which become so by pressure on the healthy part of the ovary, causing atrophy. The symptom of this condition is a constant aggravating and sometimes nauseating pain, occasionally found anywhere in the side, but more frequently felt over the region of the internal ring.

It is not necessary to extirpate the entire ovary because part of it may be cystic. Most of these cysts may be successfully enucleated and the rest of the ovary saved. Strange as it may seem these cysts seldom occur at the hilus, but generally at one or the other pole of the ovary. Make an incision through the cuboidal epithelium covering the ovary and with the handle of the scalpel or by dissection with scissors, enucleate the cyst. You find them varying in size from one to three centimeters in diameter. Generally there is a small bleeding point which may be picked up with mosquito forcepts and ligated with a fine catgut suture. The rest of the ovary may then be closed with a piece of fine, plain, catgut, and the ovary closed with a continuous Lembert suture, leaving it very much in the shape that it was before the condition began. Persistent corpus luteum cysts may be treated in the same way. At least 75% of ovaries treated in this way will continue to function and never give any more trouble. This gratifying percentage recommends the treatment to the patient as well as to the conservative surgeon. It is necessary to add, however, that when this type of cyst occurs near the hilus of the ovary it is usually futile to try the conservative method. The blood supply will then be destroyed to such an extent that the ovary is lost.

Various pelvic viscera occasionally adhere to the ovary following pelvic inflammation, namely, such objects as omentum, loops of intestine and the fimbriated end of the Fallopian tube. Any or all of these may attach themselves to

the ovary, or the ovary itself may prolapse behind the broad ligament and become attached to this ligament. This latter condition almost always causes the ovary to become swollen and edematous from passive congestion. By blunt dissection or by stripping with gauze these adhesions can readily be separated and if the ovary is merely swollen and does not contain large cysts it should have an excellent chance of recovering completely.

Another condition occasionally met with in our Gynecological work is hemorrhage from an ovary, or as an earlier generation of Gynecologists called it, ovarian apoplexy. When this occurs a Graafian follicle ruptures near a small artery causing the artery to tear in the process. I recently had such a case with this history: the regular menstruation period was 2 weeks before the onset of the attack, patient felt a violent stab-like pain in the left ovarian region which caused her to faint and fall to the floor. Recovering somewhat she had a feeling of extreme soreness in her left side. In the course of an hour or two she became faint and her husband sought medical attention. The pulse was rapid, but strong. There was a sensation of urgency to stool, which by the way is characteristic of blood or an accumulation of fluid in the cul-de-sac of Douglas from any cause. There was also a slight vaginal bleeding. On admittance to the hospital the blood count was 15,000, respiration 30, pulse 110. On the diagnosis of ruptured tubal pregnancy she was sent to the operating room, and on opening the abdomen we found considerable clotted and fluid blood in the pelvis. Both Fallopian tubes were intact, but near the hilus of the left ovary was an artery that spurted a little stream about the size of a broom straw. The artery was tied and abdomen closed. This condition is not common, but when it occurs it needs attention immediately, and no one need be ashamed if his diagnosis does not quite correspond to the findings.

There is a definite relationship between appendicitis and ovarian disease in some women. We have all seen cystic right ovaries accompanying chronic appendicitis. We have all taken histories of patients who stated that at the time of their appendectomy it was necessary to remove the right ovary. This condition is too frequent to be mere coincidence. I believe that in the past we have been too aggressive about removing the right ovary in case of swelling in the presence of appendicitis. Certain portions of such an ovary may need resection as the judgment of the surgeon may dictate, but to extirpate the entire ovary, I believe, is much too drastic in most cases. If the ovary is merely swollen, even to double or triple its normal size it has better than 50% chance that it will return to normal when the exciting cause, as the appendix, has been removed. I am not competent to discuss the why and wherefore of this condition. I only know it exists. It may be that there are lymphatic connections between the head of the cecum and the right ovary. It may be by chemotoxis that the proximity of such an irritating object causes the trouble. It may be that pressure from a chronically loaded cecum causes the difficulty. However, we all know the condition exists, and I believe that conservative surgery is indicated.

Red Blood Cells of the Plasma Bank

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WITH comet-like rapidity plasma has risen into the sphere of therapeutics. Shock, burns, hypoproteinemias, cerebral edema, hemorrhagic diseases, infections, hepatic and gastro-intestinal diseases are some indications of its scope[1]. Simplification of preparation and equipment has made plasma available to even the small institution. A previous paper discussed this phase[2]. However, as a result of this beneficial availability, there has been a tendency to "over simplification" of blood therapeutics. De Gowin cautioned that there were still occasions for the need of the oxygen carrying capacity of the red blood cells[3].

The plasma bank has become invaluable in the practice of pediatrics. Its being has given recourse to a quick, efficient method of restoring fluid balance. To the immature physiology of the child this means the difference between life and death regardless of the primary

affliction. For a certain percentage of cases, however, situations arise that make need of the metabolism of oxygen and iron.

Our work has started at Children's Hospital, Chattanooga, Tenn., and is being continued at St. Joseph's Hospital, Albuquerque, N. M. Shortly after the establishment of the plasma bank at Children's Hospital, the waste of red blood cells stimulated investigations. The voluminous literature about blood was of much help. The use of concentrated red blood cells in the treatment of anemia had been reported[4]. The development of glucose citrate solutions had increased the longevity of the stored red blood cells[5]. It was further shown "that a high proportion of cells stored in the standard glucose citrate solution up to 18 days survive in the recipient probably as long as do fresh cells[6]. The rest was a matter of clinical experience.

MacQuade and Mollison[4] offered four reasons for the superiority of concentrated red blood cells over whole blood in the treatment of anemia. These were: (1) one half the usual volume; (2) the sparing of plasma; (3) reactions fewer; (4) lessening of the danger of using type IV (0) blood. Clinical experience has verified each point offered, with the exception that the banks used function primarily as plasma banks. Furthermore, we have expanded our indications. It has been observed that it is possible to replace needed red blood cells rapidly; that the replacement is sustained; that the clinical improvement is even greater than the laboratory reports; that, because of the plasma bank, the cells are often available.

Three general groups presented themselves for study. In the first group were the severely shocked children from gastro-intestinal or related disorders. The immediate treatment was plasma to restore fluid balance and nutrition for existence. When the crisis had passed, then was noted the need for hemoglobin. Red blood cells left after plasma withdrawal were administered, and in a few days there was restored a fairly stable metabolism. The clinical course thereafter was convalescence and feeding.

In the second group were the children being treated with the sulfonamide drugs for various serious infections. The drug was necessary, but the red blood count was low and the hemoglobin was low. The child was unresponsive to therapy. Concentrated red blood cells were administered to a normal level. Clinical improvement was sensational.

The last group were of burned children that had been sustained with plasma, but later developed the need for red blood cells. With this group may also be classed the chronic diseases, and the pre- and post-operative patients for whom whole blood was not readily available.

More recently I have added Virus pneumonia to the third group. These children present themselves to the pediatrician usually after one to two weeks of unsuccessful sulfonamide therapy. Their lungs are "wet," color is cyanotic, respirations are shallow and rapid, and the X-ray shows diffuse pneumonitis . . . Oxygen is the need. Administration of oxygen per se gives some relief. Whole blood transfusion, unless the specific antibodies are present, has not proven satisfactory. However, the use of concentrated red blood cells in several cases has given quick relief. Following the injection, oxygen has been discontinued, the child rests easier, the cough diminishes, the temperature has regressed, and the convalescence hurried.

In all these cases the need for red blood cells was rather acute. The availability and ease of administration of the concentrated cells rapidly removed the child from an emergency status. At no later time has it been necessary to follow with whole blood. However, if such a need should arise it could be met at leisure. The maintenance of clinical response was as gratifying as the speed of the response. This is probably due to two factors; the increased oxygen supply to the tissues; and the supplying of iron as hemoglobin. Thus even the cells which may be more readily destroyed help through stimulation of normal hematopoiesis.

The technique of our plasma banks is that of Baxter vacuum flasks. This closed, efficient method is adaptable for the small institution[2]. The blood is drawn into a 1000 cc. flask containing 500 cc. dextrose-saline-citrate[7] or into a 500 cc. flask containing citrate, and 50 cc. of a 25% glucose is added after the blood is drawn[8]. The plasma is normally drawn off at about the sixteenth day. The remaining red blood cells may be safely used up to the thirtieth day. However, twenty-one days is the preferred optimum. The gross hemolysis serves as a guide to usage. If cells are desired during

the interim, the plasma may be drawn off sooner.

The transfusion of the concentrated red blood cells to the recipient is done from the same Baxter flasks. A special stainless steel filter incorporated in a drip connects directly to the flask. The volume given depends on the clinical condition of the child; approximately ten to fifteen cc. per pound has been safely given. The flow is either by gravity or pumped with a syringe and a three way stop-cock. As much as 180 cc. of concentrated cells have been pumped through a 22 gauge needle via a scalp vein with no reaction. It is advisable to infuse Hartman's solution prior to transfusion to buffer any hemolysis.

This interaction of the plasma bank, at the small institution where volume turnover is small, makes plasma available for the primary emergencies, and the red blood cells for the secondary emergencies. Blood banks operating on a large scale may progress along these same principles. Waste is reduced and the rounding out of blood therapeutics is accomplished.

Today, with the great use of the sulfonamide drugs, a ready source of red blood cells should be a welcome addition to our armamentarium.

CASE REPORTS:

No. 15752 (C.H.) White female age thirteen months; extreme marasmus; weight 8 lbs. 13 oz.; admitted Dec. 10, 1941; condition critical; during the first nineteen days she received 741 cc. of diluted plasma.

	Hb, (Sahli)		R.B.C.
12-13-41	33%		2,140,000
1-10-42	58%		3,020,000
1-26-42	70%		4,140,000
2- 6-42	68%		4,630,000
2-16-42	78%		3,680,000
12-17-41	100 cc.	Concentrated	R.B.C.
12-18-41	110 cc.	" "	"
12-24-41	180 cc.	" "	"

No further transfusions necessary 2-16-42 weight 13 lbs. 13 oz.

No. 15800 (C.H.) White male age 3½ years; acute mastoiditis and otitis media, left; Dec. 11, 1941 bronchopneumonia treated with sudfathiazole; Dec. 20, otitis media; Dec. 23, admitted for surgery; mastoidectomy exposed dura; sulfapyradine postoperative.

	Hb, (Sahli)		R.B.C.
12-24-41	36%		1,500,000
12-26-41	57%		2,650,000
12-27-41	75%		3,370,000
12-25-41	265 cc.	Concentrated	R.B.C.
12-27-41	340 cc.	" "	"

Clinical response quick, child sat up the afternoon of first transfusion and took nourishment. He was discharged on the thirtieth day of December with wound healing well, eating and playing normally. At home progress was good and wound closed. During the first week in February he suddenly developed symptoms of brain abcess. He was admitted to another hospital for brain surgery. General nutrition was good. 2-13-42 Hb. (Haeden Hauser) 65%, R B.C., 3,790,000.

No. 15957 (C.H.) White male age 1 year; otitis media; admitted on Feb. 2, 1942; on a sulfonamide for two weeks.

	Hb, (Sahli)		R.B C.
2-4-42	40%		2,460,000
2-5-42	88%		4,500,000
2-9-42	84%		4,469,000
2-4-42	260 cc.	Concentrated	R.B.C.

Child began to feed on next day after transfusion. His color was good. The ears stopped draining. He was discharged 2-10-42.

No. 15810 (C H.) White female age 11 years; chronic ulcerative colitis of seven years duration.

	Hb, (Sahli)		R.B.C.
12-27-41	54%		3,380,000
1- 9-42	68%		5,700,000
1-26-42	68%		3,640,000
1-30-42	68%		3,850,000
2-11-42	82%		3,460,000
1- 8-42	330 cc.	Concentrated	R.B.C.
1-29-42	295 cc.	" "	"

Weight 1-6-42, 49½ bs.; 2-16-42, 64 lbs.

No. 11903 (S.J.) Spanish-American male; age one year; admitted 4-22-43; weight 11 lbs. 1¼ oz.; ill all of life, anorexia; malnutrition with secondary anemia.

	Hb.		R.B.C.
4-22-43	35%		2,350,000
4-24-43	80%		4,000,000
4-27-43	125%		6,200,000
5-21-43	100%		5,100,000
4-23-43	210 cc.	Concentrated	R.B.C.
4-26-43	185 cc.	" "	"

Clinical improvement was rapid. Child began to eat and play normally shortly after transfusion. Weight 5-22-43. 14 lbs. 5 oz.

11901 (S.J.) White male age one year; admitted 4-22-43; history of three upper respiratory infections during previous four months. First two responded to sulfathiazole therapy. Present illness about two weeks duration, temperature high, mild cyanosis, hacking cough; Virus pneumonia.

	Hb.		R.B.C.
4-22-43	90.3%		4,450,000
4-27-43	88.5%		4,600,000
5 -2-43	80%		4,500,000
5 -6-43	100%		5,040,000
5-12-43	90.3%		4,550,000
4-25-43	90 cc.	Whole blood	no change, fever high, cyanosis.
4-28-43	105 cc.	Whole blood	no change, oxygen necessary.
5- 1-43	65 cc.	Concentrated R.B.C.	color improved.
5- 3-43	80 cc.	Concentrated R.B.C.	
5- 4-43		Oxygen discontinued, temperature regressing, cough loosening.	
5- 5-43	85 cc.	Concentrated R.B.C.	

Improvement thereafter rapid with normal convalescence. Discharged on 5-15-43.

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612 South Richmond

AMERICA AT WAR

NURSES' AIDES ELIGIBLE FOR SECURITY BENEFITS

All Volunteer Nurses' Aides should be enrolled in the U. S. Citizens Defense Corps.

The immediate importance of this announcement lies in the fact that Nurses' Aides must

be enrolled in the Nurses' Aide Unit of the Citizens Defense Corps, if they are to be eligible for the benefits provided under the War Civilian Security Program of the Federal Security Agency for all members of or trainees for the Citizens Defense Corps who may be injured in line of duty. Nurses' Aides presently working in hospitals and health agencies are considered to be in training for service in care of the wounded in the event of an enemy attack or other wartime disaster. They are therefore eligible for membership in the Defense Corps, and are thus eligible for the benefits of War Civilian Security after enrollment.

The Medical Division has recommend in various publications that Nurses' Aides be admitted to the Citizens Defense Corps when they receive their Red Cross certificates. It is suggested that the local Chief of Emergency Medical Service and the local Nurse Deputy arrange with the Red Cross Nurses' Aide Committee to have the required CDC oath administered at the graduation ceremony. All Nurses' Aides who have completed their training since the program was initiated but have failed to enroll in the Defense Corps should now become enrolled members. Women who are still undergoing their preliminary training as Nurses' Aides, but have not yet graduated, are also eligible for benefits if they are properly registered with the personnel officers of the appropriate Citizens Defense Corps as trainees for the Nurses' Aide Unit.

A new arm insigne for outdoor dress, as distinguished from the emblem attached to uniforms, has been recently designed for members of the Nurses' Aide Unit of the Citizens Defense Corps. Nurses' Aides assigned to Mobile Medical Teams and Casualty Stations of the Emergency Medical Service may wear either this new arm insigne or the Medical Unit armband, but they must wear one or the other in order to move during periods of air raid alarm. The arm insigne will be distributed by the Red Cross in the same manner as the sleeve and cap emblem.

DUTIES OF STRETCHER TEAMS IN MEDICAL SERVICE

Rescue Squads are now to assume the duties formerly assigned to the Stretcher Teams at major incidents with many trapped casualties. In addition to the technical work of rescue, this includes emergency care and transport of casualties from the scene of an incident to an ambulance or to a point where medical service is available. Stretcher Teams remain, however, an essential part of the Emergency Medical Service, the Medical Division points out. The functions of the teams as outlined in the new statement are as follows:

1. Assisting medical personnel at Casualty Stations in handling and nonprofessional care of minor casualties.

2. Unloading ambulances and assisting in reception of casualties at hospitals.

3. Performing rescue work at minor incidents not requiring specialized rescue squads.

4. Assisting Rescue Squads at major incidents at which many casualties are trapped.

A Stretcher Team is composed of a leader and four other persons, preferably men and older boys from the neighborhood of the facility to which they are attached. The Medical Division urges that members of a hospital staff who have maintenance functions should not be selected for duty on a Stretcher Team.

A group of teams attached to any facility is under a group leader, who is responsible for the organization and training of members of his teams. All team members must meet the requirements of OCD regulations for membership in the U. S. Citizens Defense Corps by completing either an American Red Cross or a Bureau of Mines first aid course. In this connection the Operations Letter states that if a Red Cross or Bureau of Mines instructor is not available, insruction in first aid may be given by some other qualified person certified by the Chief of Emergency Medical Service. After enrollment in the Citizens Defense Corps., Stretcher Teams are to be given continued training in field care and transportation of the injured.

CHANGES IN STAFF OF MEDICAL DIVISION, OFFICE OF CIVILIAN DEFENSE

New Regional Medical Officers

Appointment of Dr. Harrison A. Walker, Miami Beach, Fla., as Regional Medical Officer in the Fourth Civilian Defense Region, with headquarters in Atlanta, Ga., is announced by

the Medical Division of the Office of Civilian Defense. He succeeds Dr. Burt A. Dyar.

Dr. Walker was graduated from Indiana University School of Medicine, Bloomington-Indianapolis, in 1917. After an internship at the Indianapolis City Hospital, he spent a year in the U. S. Army and returned to Indianapolis, where he remained as assistant in surgery and later was assistant instructor in operative surgery at Indiana University School of Medicine.

Since 1925 Dr. Walker has practiced in Florida, first at Hollywood and since 1930 in Miami Beach. Prior to his appointment as OCD Regional Medical Officer, he was a member of the surgical staffs of the James M. Jackson Memorial Hospital, Miami, and St. Francis Hospital, Miami Beach. He is a member of the American Medical Association and the Southeastern Surgical Congress and a Fellow of the American College of Surgeons.

Dr. Dyar, who had been Regional Medical Officer since March, 1942, has retired and is now living in Custer, S. D.

* * *

Dr. Ozro T. Woods, Dallas, Texas, has been appointed Regional Medical Officer of the Eighth Civilian Defense Region to succeed Dr. Witten B. Russ, who had served since 1941, the Medical Division of the Office of Civilian Defense announces.

Dr. Woods is a native of Nebraska and a graduate of the University of Nebraska College of Medicine, Omaha, class of 1924. He has been a member of the faculty of Baylor University School of Medicine, Dallas, since 1924, and has recently been associate professor of surgical pathology and clinical surgery. Since 1928 he has been associated with the Dallas Medical and Surgical Clinic. He is a member of the American Medical Association, the Southern Medical Association and the Dallas Southern Clinical Society.

SOCIETY ACTIVITIES

FRANK J. MILLOY, M. D.
Secretary
Arizona State Medical Association

L. B. COHENOUR, M. D.
Secretary
New Mexico Medical Society

LOUIS BRECK, M. D.
Secretary
Southwestern Medical Association

CHAS. F. RENNICK, M. D.
Secretary
El Paso County (Texas) Medical Society

ARIZONA STATE MEDICAL ASSOCIATION

(J. D. Hamer, Associate Editor)

ORVILLE HARRY BROWN

In the death of Dr. Orville H. Brown of Phoenix, Arizona, which occurred in Arcadia, California, at the home of his daughter, one of the leading medical figures of the southwest passed from the scene. For three years friends had witnessed with sympathetic astonishment his heroic struggle against the insidious and inevitable advance of a diffuse malignancy originating in the prostate. Dr. Brown's calm and philosophic acceptance of the situation is well illustrated by a personal report of his case, published in the Urologic & Cutaneous Review for June, 1942. In this attitude he was supported by the constant encouragement of his wife and daughter, as they together faced the situation with open eyes, but with courage and fortitude.

Dr. Brown was born in Kansas July 18, 1875, and had, therefore, just passed his sixty-eighth birthday at the time of his death. He graduated from the University of Kansas, and then became assistant in physiology in that school for the years 1901 and 1902. He took part of his medical training at the University of Chicago while serving there as assistant in physiology from 1902 to 1904. He then went to St. Louis University School of Medicine, where he was assistant professor of pharmacoloty from 1904 to 1907, taking his degree in medicine there in 1905. In the same year he received his degree

of doctor of philosophy from the University of Chicago.

From 1905 to 1907 he was associate director of the Mount St. Rose Sanatorium in St. Louis, and then became medical director of the Missouri State Sanatorium for Incipient Tuberculosis, at Mt. Vernon, Mo., which position he held from 1907 to 1910. During this period he made several notable contributions to the study of tuberculosis, both from the standpoint of individual treatment and from the aspect of public health. From 1910 to 1916 he was assistant professor of medicine at St. Louis University. During this period Dr. Brown carried out his study and research on asthma which culminated in the publication of his well known book on that subject in 1917, by C. V. Mosby Co.

In 1916, Dr. Brown moved to Phoenix where he spent the remainder of his professional life. For a time he was associated with Dr. W. O. Sweek as the internist of a medical-surgical team. In 1918 he was appointed superintendent of public health for Arizona, holding this position until 1920. For approximately ten years, between 1920 and 1930, Dr. Brown practiced alone and became established as one of the leading internists of Arizona, giving special attention to asthma, in which field he was an acknowledged authority. In 1930 he formed an association with Dr. Loren C. Barlow, a surgeon, this affiliation being terminated suddenly by the death of Dr. Barlow in June, 1931 from epidemic meningitis. In 1932 Dr. W. L. Reid came as the surgical member of the Phoenix Clinic which was organized by Dr. Brown. Misfortune again struck when Dr. Reid was killed in an automobile accident in 1937.

He was an important figure in the Arizona State Medical Association and the Southwestern Medical Association. He was editor of *Southwestern Medicine* from 1935 to 1939. In the Arizona Medical Association he held the important post of Historian for many years. He took this office seriously and devoted to it an enormous amount of time and energy. By untiring search through old newspapers and journals, by persistent correspondence with surviving members of families of doctors who had practiced in Arizona, and by personal interviews at every opportunity, he brought together and placed in the archives of the Association historical data regarding every doctor who has ever practiced medicine in the state. It was his ambition to prepare a "Medical History of Arizona," but this task now awaits the attention of some one else. Dr. Brown was elected to Fellowship in the American College of Physicians in 1931 and subsequently became a Life Member. He was a diplomate of the American Board of Internal Medicine, member of the American College of Chest Physicians, the American Association of Biological Chemists, and of the Royal Society of Medicine of London. He was the author of two books; one on "Laboratory Physiology" published during his early years in St. Louis, and the book on "Asthma," previously mentioned, published in 1917. Besides these books he was the author (in a few instances in collaboration with others) of no fewer than eighty-five medical articles. His last published contribution was the personal account of his terminal illness. "Two Years Experience With Bone Cancer," (see above).

Early in 1937, after the rather sudden development of urinary obstruction, Dr. Brown had a transurethral resection done in Los Angeles and in the tissue removed evidences of prostatic carcinoma were found. He elected to be treated by the supervoltage x-ray equipment at the California Institute of Technology. The results seemed to be good and he continued his work. In 1939 the development of back pains, headaches and other symptoms led to investigation and he was found to have a very widespread metastatic involvement of osteoplastic type, in skull, spine, pelvis and ribs. Realizing the evitable outcome of the situation Dr. Brown closed his office in June, 1940, and went with his wife to live with their daughter and son-in-law in Arcadia, California. With the spirit of a true scientist and philosopher, he offered his case with its dramatic bone lesions, involving every vertebra in the spine and every rib, to the University of California for experimentation with irradiated heavy metals produced by the cyclotron. Under this treatment with irradiated strontium and phosphorus, much interesting and important data were acquired. Through the effect of this treatment, plus occasional treatments in Los Angeles by x-ray for pain, and his own personally directed dietary regimen, his life was prolonged from the maximum of three months set by Phoenix con-

sultants (including the writer), to more than three years. During all this time Dr. Brown maintained his interest in professional work, writing several articles, reading many books and preparing reviews for *Southwestern Medicine*, as well as making an intensive study of his own case.

His wife and daughter, facing the situation with equal courage, helped him maintain his cheerful and courageous philosophy to the end, when, undefeated and unafraid, he "wrapped the drapery of his couch about him and lay down to pleasant dreams. He was a good soldier. He fought a good fight. He kept the faith. Nothing better can be said of any man.

—W. Warner Watkins

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MISCELLANY

RADIO HYGIENE

A merry war is being waged over the daytime serials known in radio parlance as soap operas, so called because they are sponsored by manufacturers of cleansing products. This war has to do with the question of the harm-

fulness or harmlessness of these serials, which are listened to daily by millions of women and which bring in more millions of money to two of the major networks than any other type of program, according to the *New York Times.*

The soap opera is "a piece of story-telling for wide popular consumption." While not always unhappy as to theme, its fascination for the hearers depends chiefly upon its trouble theme. "Most people enjoy hearing about other people's troubles." "Frequently the bout involves the Eternal Triangle."

The experts, medical and otherwise, are divided into two camps, one group finding the solutions ethical and helpful, the other denouncing the stories as feeding up lonely and already troubled listeners on personal woes, as catering to states of anxiety, as encouraging fantasy life by way of morbid escape from reality and responsibility, as projecting self-pity, as making for wishful thinking, and as offering phony philosophy and neurotic egoism.

Even the psychiatrists divide on this momentous issue. To one school it is a debilitating factor in national life, to another it makes for better mental health and morale.

Whaever the medical truth, we have here a twofold revelation, one relating to the social and cultural planes upon which our people live and have their being, the other relating to the commercial exploitation of the status quo by a new industrial technic. —*Med. Times.*

MORE POLITICAL MEDICINE

Proposed changes in the structure of American medicine by numbers of groups, associations, and corporations and by legislators were examined in a recent address by Thomas A. McGoldrick, M.D., L.L.D., President of the Medical Society of the State of New York. "From the beginning of the World War we have heard from very many sources of the changes that would take place at its end. Numbers of groups—of associations and corporations, as well as of individuals—have with assumed prophetic vision proclaimed the many radical changes that they desire to take place. The report of the Twentieth Century Foundation lists nearly 140 such corporations, representing vast aggregations of wealth. It would seem as if very little now existing, or existing before he war—whether tried by time or experience, whether experimental or proved by usage—is worth saving. These workers are in full accord with the English economist who said that in a time of political revolution many drastic changes could be accomplished which in normal times would be impossible. A brand New World is sought—in fact is on the way. Now no person may ever find fault with *improving* existing conditions or practices; no one *should* find fault with the adjustment of methods for betterment. No one, however, no matter how well intentioned, should cast aside knowledge we now possess or sacrifice true progress which has been made. Long years ago, Erasmus said: 'The greatest folly of which a man is capable, is to sit down with pencil and paper to plan out a new social world.' "

Yet that very thing seems to be the plan and intent of many who would remold the free insitutions of American medicine along the lines proposed by Senator Wagner and his colleagues in *S.1161; H.R.2861* as set forth in the August 1, 1943, issue of the *Journal.* One must believe the proponents of such a measure to sell the civil practice of medicine into slavery and bondage to be ignorant of or willfully blind to the continuing progress and remarkable results already attained by the profession. It is true, as Dr. McGoldrick points out, that "in some areas of this country, there are not enough doctors—not enough hospitals—not a sufficient number of laboratories, though not to such a degree as has been proclaimed by interested workers. In some sections of the country, everybody has not the facilities at hand and within his means to obtain every kind of specialist, every laboratory procedure, and every instrument of precision. Everybody has not the intelligence to desire or even accept the good medicine which is available. In regions of great ignorance the superstition, the voodoo, the charm, the universal medical mixture cure—all are preferred; in other sections, we have the hundred thousands of people choosing the 'isms,' the 'pathies,' and the faith cures; many more, able to select and pay for good preventive medical or dental prophylaxis or cure, prefer and choose other ways to use their money. But everybody in the United States is sharing in the effects of ever advancing medical knowledge, which has given us the lowest

mortality and morbidity rates of any country in the world with comparable population.

"A few years after the close of World War I, there was announced the discovery of insulin and its wonderful value to the million diabetics in this country. Following that came the results of the studies of anemia, the elements involved in the causation of the pernicious type, the use of liver extract with other remedies. Less than ten years ago chemotherapy presented us with the sulfonamide drug, with its successive preparations and their astonishing successes. The program in blood transfusion, the technical improvements, including the preparation and the preservation of plasma, and its uses, have been real advances—have been of immense life-saving benefits multiplied over in these terrible days. When through the fortunes of war, our allied nations lost the source of the greater part of their quinine—and when the need for antimalarial remedies was greatest for our soldiers in these foreign infested lands—medicine, with the great help of the pharmaceutic industries, synthesized the atabrin or quinabrin preparations that have so effectively substituted. The general reduction in infections, such as typhoid, diphtheria, tuberculosis, the treatment of venereal disease, the lowering of the death rate in maternity cases are but some illustrations of progress within these past twenty-five years. The value to the nation and to the individuals therein of the medical progress we have made is rarely mentioned—generally is not known. In Social Security plans the importance of the lives saved and the improvement of individual good health in preventing unemployment, in reducing absenteeism, in increasing income, in prolonging life in an earning capacity, in the shortened period for old-age pensions, is rarely properly appraised.

"The doctors were the earliest in the groups of real social workers. Besides being the possessors of ever increasing knowledge, they were the originators, the prompters, the inaugurators, and early directing guides of every hospital, every clinic in our land, and in their long-continued, unremunerated services have been the principal contributors and supporters of these institutions."

It is now proposed to sell these medical men who have initiated and accomplished all these things into a house of bondage, into a kind of economic and professional slavery to the Sergeon General of the United States Public Health Service.

If the people of the United States really want that to be done, it can be done, for better or worse. We believe, however, that if they are fully informed of the proposal and its probable consequences, the people will have in remembrance the accomplishments of a free, progressive, and liberal profession and will instruct their representatives to accord *S.1161; H.R.-2861* the scant consideration they deserve.

The situation is serious. The medical profession is obligated to see to it that the people are fully informed of what is proposed and what such a proposal will mean to them.

The people will, in the final analysis, decide the issue. —*N. Y. St. J. M.*

MEETING CIVILIAN MEDICAL NEEDS

The problems of civilian medical care are becoming increasingly acute as more and more physicians are taken into the armed forces. This country has more physicians in relation to population than any other country in the world, and there will be plenty available to provide essential, though not luxury, medical services for both the armed forces and for the civilian population if their services are properly distributed and utilized economically and efficiently. At the beginning of the war, there was approximately one effective private practitioner of medicine to every 1,022 persons in the United States. At the end of 1942 this figure had increased to one to 1,361, and by the end of 1943 it will be approximately one to 1,500. It is reported that England has one physician to approximately 230 persons in the armed forces and one physician to 2,700 in the civilian population. In this country the corresponding figures at the present time are approximately one to 150 for the armed forces and one to 1,400 for the civilian population. Germany is said to have approximately one physician to between 8,000 and 12,000 population. From this one can only conclude that the United States is relatively well off in terms of medical care both for the civilian population and for the armed forces.

As stated earlier, at the end of 1942 more than half of the practicing physicians under

45 years of age in this country were in the Army or Navy. By the end of 1943 practically all of those remaining who are physically fit and can be spared from civilian practice will be required to meet the minimum needs of the armed forces. This is the age group which is most active in medical practice and carries the biggest load of medical care. With them no longer available, the public is certain to feel a shortage of medical care. These shortages, however, need not be serious if the services of the remaining physicians are utilized intelligently and efficiently.

To do this it is important that patients do not call physicians unnecessarily and that, so far as possible, when they need a doctor they make appointments in advance so as to comserve the physician's time. It will be necessary also for physicians individually and as a group to plan to provide the public with essential medical services, whether they be in the office, the hospital or the home. Most physicians will need to add to their already long hours. Many who have completely or partially retired from practice will have to "carry on" once again. And all will have to share the responsibility for the medical services, including house calls, which normally would be rendered by the physicians who are now in service. —*Ohio St. M. J.*

REGIMENTATION OF MEDICINE

Do you want the United States Government to take over and operate the practice of medicine? Do you want another bureaucrat, called a "Surgeon-General," to tell you whether or not you can be attended by the physician of your choice? Do you want to pay 6 per cent more of your wages into another governmental scheme for taking over another portion of your private life and create another gigantic bureau to regulate things here in this democracy of ours?

That's what Senators Robert F. Wagner (D., N. Y.) and James E. Murray (D. Mont.) propose in a bill introduced in the Senate to broaden the Social Security Act, and which will be called up for action when Congress reconvenes in September.

Under the guise of adding domestic and farm workers, sailors, employees of religious and charitable institutions, public servants and other small groups to the eligibles for old-age pension and unemployment insurance benefits, the bill would set up a detailed plan for bringing State Medicine to the United States, run from Washington by the United States Surgeon-General.

To finance the scheme, Social Security taxes on both employers and employees would be steeply increased. They would go to 6 per cent of wages up to $3,000 a year from each of these parties, as against the present 1 per cent from employees and 4 per cent from employers. Add that to your 20 per cent withholding tax and where are you?

One-fourth of the revenue raised would go to finance the Federal Government system—an estimated $3,000,000,000 a year. With this money the Surgeon-General would be required to arrange for general medical, special medical, laboratory, and hospital services for every one of the estimated 110,000,000 Americans covered by a broadened Social Security Act. He would be, as the *New York News* points out, the commissar of the United States medical profession, because of the powers this proposed law would give him.

These powers include: To enlist physicians for the services above described and hospitals likewise; to fix fees of physicians rendering such services; to limit the number of patients to be cared for by each physician; to prorate patients among available physicians; to finance medical education and medical research.

Out of his $3,000,000,000 a year, the Surgeon-General is supposed to spend $60,000,000 for administration (more jobs for bureaucrats) and would pay out $2,400,000,000 in benefits. Under the "benefit" head he would be required to spend 2 per cent of the $2,400,000,000 or $48,000,000 on medical research and education. With this sum he could pretty thoroughly rip American medical education as follows:

Pay total cost of operating all sixty-six accredited United States medical colleges	$21,491,248
Subsidize 22,000 medical students at $700 a year for four years each	15,400,000
Spend for other research per year	11,108,752
	$48,000,000

Or if the medical schools and doctors objected to this, he could wreck them by spending his money this way:

Duplicate all existing medical teaching facilities in the U.S.A.....	$22,000,000
Pay 20,000 additional medical students $700 a year apiece during their period of training.....	14,000,000
Spend in other ways as he pleased..	12,000,000
	$48,000,000

The bill also empowers the Surgeon-General to muscle into the dental and nursing professions and "improve" them—something he would be well provided with taxpayers' money to do. What improvement any political control can bring to the medical, dental or nursing profession is another question, and we think, in view of the record made by most of our existing bureaus for regimentation, a most dubious one.

There are many weaknesses in our present system. Every individual should be entitled to all the benefits of modern medical science, if and when needed, regardless of his financial condition. Every child, for instance, who is stricken with infantile paralysis, should be able to command the very best of treatment, whether he be of poor or wealthy parents.

Adults, unfortunate enough to have sickness or other physical disorders in the family, should not find it necessary to work the rest of their lives to pay off doctor and hospital bills.

What the answer is to these and many other questions constantly arising, we wouldn't know. We have maintained for a long time, however, that they should come from the medical profession itself. And we hope the Wagner-Murray bill will scare the profession sufficiently to get these answers out without further delay.

Certainly political tinkerers and welfare workers are not qualified to do the job, and it looks to us as if the Senators had been sold a bale of extremely dangerous goods by some fanatic or other, who is one of the group taking advantage of the war to push their theories and fanaticisms onto the national statute books.

One thing all Americans should remember—that regimentation would never come to all groups of citizens at once. It would come group by group, profession by profession, industry by industry.

If the medical profession is established under a Washington commissar, it won't be long until the engineers will be under a dictator also. Then will follow the lawyers, the bankers, the public utilities, railroads, the airlines, and so on down the list.

The medical profession would be chosen first because it is the most vulnerable. If we allow it to be picked off, the rest will be taken over in due course. The time to make a stand is now. The whole principle of free enterprise is at stake. And there is no compromise!—Las Vegas (Nev.), *Review-Journal*, July 28, 1943. —*Calif. & West. Med.*

THE WAGNER-MURRAY BILL

The Wagner-Murray Bill submitted to the Senate June 3, 1943, is an almost incredible attempt to substitute state medicine for private practice by the inclusion of the medical and hospital care of some 110,000,000 of our population in the bill providing social security on a broad scale similar to the Beveridge plan in Britain.

In brief, employes are to be taxed six per cent of their wages, employers another six per cent of the payroll, every self-employed individual seven per cent on the market value of his services up to $3,000 per year and government employes will pay three and one-half per cent of their salaries. Of the estimated $12,000,000,000 so raised, some $3,000,000,000 will be allocated to The Medical Care and Hospitalization Account, the expenditure of which will be under the direction of the Surgeon General of the United States Public Health Service. He is authorized and directed to take all necessary and practical steps to provide medical and hospital care for the people of the country, to designate the individuals or groups of physicians and the hospitals which shall furnish the service and to pay for such service. A National Advisory Medical and Hospital Council of sixteen members shall be appointed by the Surgeon General to act in an advisory capacity, but without authority. Any qualified physician can furnish medical service according to rules presented by the Surgeon General. Every individual shall be permitted to select his own doctor in accordance with rules presented by the Surgeon General. The Surgeon General shall publish the names of general practitioners who have agreed to furnish service and shall designate the specialists. Fee schedules are to be approved by the Surgeon General, who shall

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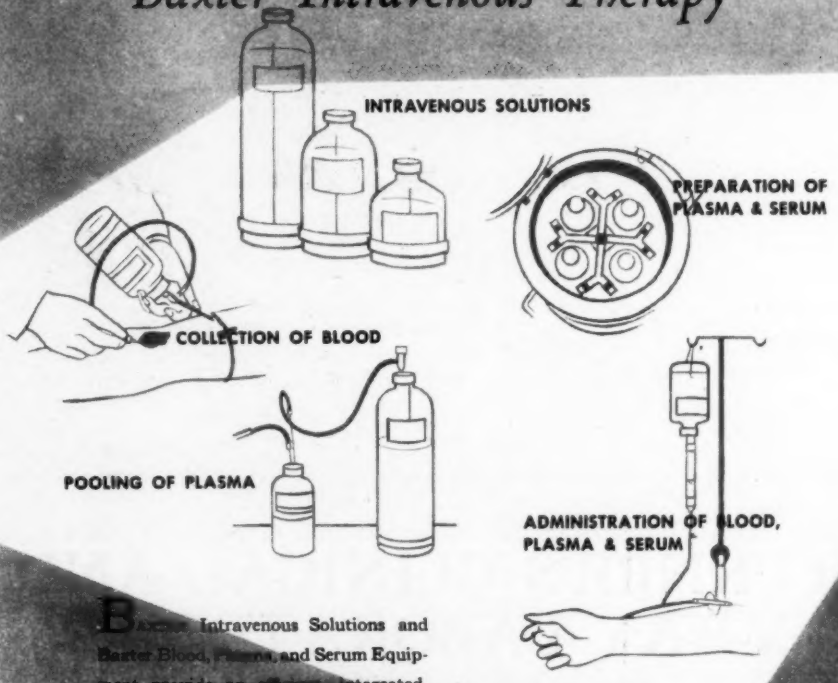

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arrange for part-time or whole-time service and the Surgeon General may prescribe the maximum number of patients for each physician.

In fact if this Bill 1161 is passed, private practice in this country will be at an end and one man, the Surgeon General of the Public Health Service, will have a czar's direction of the medical and hospital care of our people and the expenditure of a sum almost equal to the total yearly revenue of the Federal Government in the nineteen-twenties.

Will Congress give serious consideration to this bill which would make medical care a governmental function and would eliminate private practice as we know it? We think not.

DISORDERS DUE TO HEAT

	Heat Cramps	*Heat Exhaustion*	*Heat Stroke ("Sun Stroke")*
Symptoms	Conscious patient; temperature normal; pulse normal or fast; skin normal; cramping pains	Conscious patient; subnormal temperature; pulse weak and fast; skin pale and cold—"shock" appearance	Unconscious patient; fever (105 F. or higher); pulse very strong and very fast; skin *dry* and very *hot*
Time	Occurs in early period of a hot spell	After some hours	Usually after second or third day of a hot spell
Age	Any age	Usually in older persons and those with systemic disease	More often in older persons, but may occur at any age
Treatment	Oral or intravenous use of sodium chloride	Warmth; rest; lay patient down flat; stimulants	Ice bath or ice pack at once
Prevention	Daily use of coated salt tablets and ample water	Daily use of salt tablets and ample water	Avoid exposure to overheating and sun for several days

—*Minn. Med.*

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• That question may seem fatuous, but actually, "to operate a successful blood bank, a hospital must do at least 750 or 1,000 transfusions a year. Otherwise, it alternates between an excessive supply of blood, which goes to waste, and shortage."[1] "In most general hospitals of 400-bed capacity or smaller . . . the volume of transfusion work is not great enough to justify the establishment of a blood bank."[2]

• • •

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Accepted by the Council on Pharmacy and Chemistry of the American Medical Association . . . Sharp & Dohme, Philadelphia, Pa.

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1. N. Y. State J. Med., 42:1145, 1942. 2. Modern Hospital, 58:100, 1942.

And yet, during the stress of war the unexpected might happen.

There are certain individuals in our body politic who are bent on socializing all activities in our country. They are prominent in government circles in Washington. They would destroy private industry and incentives which have made the standard of living in the United States the highest in the world.

The American physician is an individualist. He studied medicine because he wanted to become a physician and in many cases did so in spite of financial handicaps. He values his medical degree because of the effort involved in obtaining it. A physician's practice is competitive, and as a rule the most efficient physician is the most successful. In spite of acknowledged deficiencies in our medical system, our competitive system supplies the best medical care in the world, far superior to that in most foreign countries with socialized medicine.

The question arises whether the present provision whereby all medical students are put in uniform, become members of the reserve and have their expenses paid by the government in addition to monthly pay, is a wartime necessity. There has never been a dearth of medical students; the medical schools for years having had more applicants than they could possibly accommodate. It is true that being in uniform signifies that the medical student is doing his part in the present conflict and for this reason, as well as for financial ones, it is desirable for the student. Is a medical student who, at no financial outlay on his part or that of his family, undertakes the study of medicine, as likely to put forth as much effort to obtain his degree as though he had paid for the training? Upon graduation will he not be psychologically conditioned to accept further governmental pay as a doctor and avoid the competition of private practice?

During a war governmental powers must be increased and many phases of life must be regulated. Taking over by the government of the medical care of its citizens is not a war emergency, although it would appear that advantage is being taken of the present crisis to try to put through this legislation at this time. Possibly the main reason for the presentation of this bill at this time is to further public discussion.

Discuss the bill we shall. Is there any reason for believing that the health of our citizens will be improved if all medical care is administered by a czar in Washington with control of medical personnel and fees, hospitals and hospital rates, number of patients a physician may have, et cetera? Such an undertaking would incidentally require an enormous expansion of the Public Health Service, an enormous administrative expense, the throttling of individual initiative and a lower grade of medical service.

The public is submitting to regulation of many phases of life by Washington bureaus because of war necessity. The typical American does not relish unnecessary regulation and it is certain that after the war there will be a reaction which will lead to the abolition of unnecessary bureaucratic control. It should not be forgotten that our government was formed by the people to make certain needed regulations for the common good, not to interfere with legitimate activities of citizens and not to act as a dispenser of benefits—medical care included. —*Minn. Med.*

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From tests published in Proc. Soc. Exp. Bio. and Med., 1934, 32, 241-245
Laryngoscope, 1935, XLV. No. 2, 149-154

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Other signs of disturbed nutrition often accompanied the glossitis, particularly commissural cheilitis, anemia, and hypoproteinemia.

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